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ABSTRACT

According to the U.S. Bureau of Labor Statistics, the growing population of elderly citizens will result in an increased demand for healthcare services that will rise for a full 50 years. This study assesses the need for healthcare sector workers in the Washington, D.C. metropolitan area. Information on the skills, education, and experience that are required for obtaining jobs in this sector wee collected and analyzed. In addition, jobs that were advertised in "The Washington Post" on February 13, 2000; April 16, 2000; and February 2, 2001 were used to assess employer demand for healthcare positions. This report divides advertised healthcare positions into 11 categories: (1) medical assistant; (2) radiology; (3) nursing; (4) rehabilitation; (5) billing clerks; (6) medical receptionist; (7) mental health; (8) pharmacist; (9) social worker; (10) clinical laboratory services; and (11) "other." One result indicated that on February 2, 2001, 27% of the healthcare jobs advertised in "The Washington Post" were for nursing positions, while 12% were for positions in the rehabilitation category, and 10% for medical assistants. The paper analyzes job categories according to education and experience required, income range, and employment outlook through the year 2006. A list of Healthcare Degrees Offered by Northern Virginia Community College, Acronym Identification, and Health care Educational Requirements are appended. (NB)

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ED 458 912

BUSINESS NEEDS ASSESSMENT STUDY: NO. 5

NEEDS ASSESSMENT OF THE HEALTHCARE SECTOR IN THE WASHINGTON, D.C. METROPOLITAN AREA

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Research Report No. 8-01

Office of Institutional Research
Northern Virginia Community College

March 2001

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NEEDS ASSESSMENT OF THE HEALTHCARE SECTOR IN THE WASHINGTON, D.C. METROPOLITAN AREA

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NEEDS ASSESSMENT OF THE HEALTHCARE SECTOR IN THE WASHINGTON, D.C. METROPOLITAN AREA

Executive Summary

The Office of Institutional Research (OIR) at Northern Virginia Community College collected and analyzed information on the skills, education, and experience that are required for obtaining jobs in the healthcare sector in the Washington, D.C. metropolitan area. Jobs that were advertised in the *Washington Post* on February 13, 2000, April 16, 2000 and February 2, 2001 were used to assess employer demand for healthcare positions. Information that was gathered included the nature of healthcare jobs, necessary education, and skill requirements. The number and diversity of healthcare jobs appearing in the *Washington Post* are indicative of the availability and diversity of healthcare positions offered in this area. A review of the healthcare degrees and programs currently offered by NVCC indicates that the College is well positioned to respond to student and employer needs in this area.

The following is a brief summary of the findings:

Healthcare Positions Requiring High School Graduation: Occupations that generally required a high school diploma included Medical Secretary, Pharmacy Aide, Medical Record Clerk, Dental Assistant, Occupational and Physical Therapy Aide, Medical Receptionist, Billing Clerk, Home Health Aide, Nursing Aide, Nutrition Assistant, Medical Insurance Assistant, Activities Aide and related occupations. These jobs generally required minimal experience of 1 year or less in a healthcare setting. Several employers offered to train individuals on the job.

Knowledge of dental computer software was indicated for some positions as well as familiarity with Windows 98, WP 6.1 and Access for Medical Secretary and Medical Receptionist positions. Billing Clerks and Medical Insurance Assistant positions required candidates to have knowledge of the insurance billing process and insurance billing codes. For those positions with heavy exposure to the public, friendliness and good communication skills were required. Other frequently mentioned attributes that employers were seeking in candidates included reliability, team player, motivation, and organizational skills.

Healthcare Positions Requiring Post-Secondary Training: Occupations that generally required post secondary training such as an Associate Degree, Baccalaureate, or more extensive employee training included Radiologic Technologist, Respiratory Therapist, Nurse, Surgical Technician, Medical Assistant, Corrective Therapy Assistant, Physical Therapy Assistant, Medical Records Technician, Licensed Practical Nurse, Dental Hygienist, Speech Therapist, Phlebotomist, Optician, Certified Nurse Aide, Pharmacy Technician, Emergency Medical Technician, and related occupations.

These positions typically required two years of experience or more, certification, and licensure in the area where employed. Several ads indicated candidates should have experience working with people with physical or mental disabilities. Competency in the field, reliability, and self-motivation were the most frequently mentioned attributes that candidates should possess.

Healthcare Positions Requiring Bachelor's Degree or Higher: Occupations that required a Bachelor's Degree or advanced degree included Physical Therapist, Nurse, Audiologist, Psychologist, Chiropractor, Speech Language Pathologist, Medical Doctor, Psychiatrist, Nutritionist, Pharmacist, Dental Surgeon, Provider of Services Coordinator, Counselor, Nurse Manager, Psychotherapist, Clinical Director, Diabetes Educator, Chief Nursing Officer, Staff Development Officer, Optometrist, Marketing Administrator, Director of Medical Management and related occupations.

In general, 2 to 6 years of experience was required in highly specialized clinical areas within a healthcare setting and management experience background was required for supervisory positions. The most frequently desired personal attribute was for candidates to have professional mannerisms when working with clients/patients.

NEEDS ASSESSMENT OF THE HEALTHCARE SECTOR IN THE WASHINGTON D.C. METROPOLITAN AREA

Introduction

The national healthcare sector is a multi-trillion dollar industry and will account for approximately one-fifth of all job growth through the year 2005. It can be reasonably assumed that the Washington, D.C. metropolitan area, characterized by its level of population density and robust economy, will mirror the national trend both as a user and supplier of healthcare. Healthcare growth will be mainly attributable to an aging population and advances in technology.

This assessment was conducted in order to learn more about the skills, education, training, and experience required by healthcare employers in the Washington, D.C. metropolitan area. An awareness of this information will permit NVCC to better evaluate whether it is meeting the needs of its students and the local healthcare sector. The February 13, 2000, April 16, 2000 and February 2, 2001 healthcare employment sections of the *Washington Post* newspaper were used to assess the needs of the local economy.

Methodology

The first sample of advertised healthcare positions was taken from the February 13, 2000 edition of the *Washington Post*. Every fifth healthcare position that was advertised was selected for this analysis. The information that was gathered from the advertisements included the position title, required skills, required education, necessary work experience, and computer hardware/software skills necessary for candidates to possess. The healthcare positions were placed into six major job categories. These six major job categories were the following: dental, medical assistant/specialist, mental health/social work, nursing, radiology, and other. The information is presented in table format in Section 3 of this report.

The second sample of advertised healthcare positions was gathered from the April 16, 2000 edition of the *Washington Post*. Similar to the first sample, every fifth healthcare position that was advertised was selected for the analysis. Again, the information that was gathered included position title and required skills, education, work experience, and computer knowledge necessary for candidates to possess. The positions from the second sample were also grouped into six major job categories and are presented in Section 3 of this report.

The third sample of advertised healthcare positions was taken from the February 2, 2001 employment section of the *Washington Post*. Unlike the other two samples, every advertised healthcare position was analyzed in order to determine the major characteristics of jobs in the local labor market. This information is presented in Section 1 of this report, with a total of 376 analyzed healthcare advertisements.[1] Advertised healthcare positions were grouped into ten major categories as follows:

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[1] A copy of the *Washington Post* employment section can be viewed at OIR.

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A. Medical Assistant
B. Radiology
C. Nursing
D. Rehabilitation
E. Billing Clerks
F. Medical Receptionist
G. Mental Health
H. Pharmacist
I. Social Worker
J. Clinical Laboratory Services
K. Other

In many instances advertised job titles alone were listed, education and training were omitted, and work experience was either omitted or not specifically quantified. An attempt has been made to provide a more comprehensive understanding of job requirements by utilizing the *Occupational Outlook Handbook, 2000-01 Edition*, published by the U.S. Department of Labor Statistics, Bulletin 2520. This publication was also used as a source in providing supplementary information on job descriptions, employment outlook and earnings to the extent that the information was available.

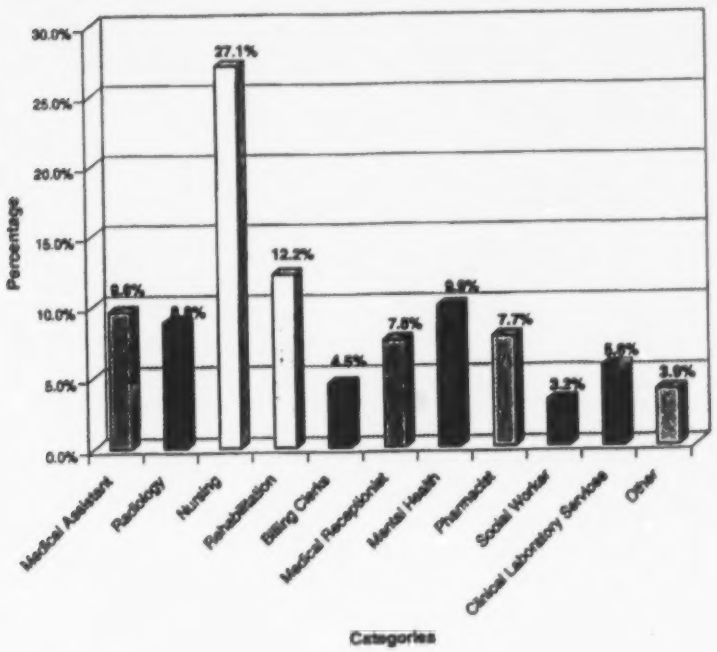
Table 1 and Figure 1 present the number and proportion of healthcare positions, advertised in *the Washington Post* on February 2, 2001, in the ten job categories. As shown, the largest proportion of advertised healthcare positions were in the nursing category (27%).

Table 1: Advertised Healthcare Jobs, By Category *

Categories	Positions	
	#	%
Medical Assistant	36	9.6
Radiology	33	8.8
Nursing	102	27.1
Rehabilitation	46	12.2
Billing Clerks	17	4.5
Medical Receptionist	28	7.5
Mental Health	37	9.9
Pharmacist	29	7.7
Social Worker	12	3.2
Clinical Laboratory Services	21	5.6
Other	15	3.9
Total	376	100.0

* *The Washington Post*, 2/2/01

Figure 1: Healthcare Jobs Advertised, By Category



Section 1: Skill Requirements for Healthcare Positions

A. Medical Assistant

Jobs Advertised: Job titles included in this category were listed as Medical Assistants.

Job Description: Medical Assistants perform a variety of routine administrative and clinical tasks in offices and clinics. Administrative duties may include updating and filing patient medical records, completing insurance forms, handling correspondence, arranging for hospital admission and laboratory services, and conducting billing and bookkeeping tasks. Clinical duties may include taking medical histories, recording vital signs, explaining treatment procedures to patients, and assisting physicians in various ways.

Education/Training/Experience: Two agencies are recognized by the U.S. Department of Education Accreditation programs in medical assisting: the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the Accrediting Bureau of Health Education Schools (ABHES).[2] Both organizations provide certification as American Medical Technologist (AMT) and American Association of Medical Assistants (AAMA). Advertised positions required either licensure as a LPN, certification, or no formal training. The preferred background for job candidates to have was one to three years of experience in a health care setting with computer skills, insurance billing, and knowledge of health maintenance organizations (HMOs). Frequently mentioned personal attributes that candidates should possess included friendliness, communication skills, and being a team player. On the job training appeared to be common practice.

Employment Outlook: Medical assistants are expected to be one of the ten fastest growing occupations through the year 2008. Job prospects should be best for medical assistants with formal training.

Earnings: The range of annual earnings in 1997 for medical assistants was $18,500 to $20,800.

B. Radiology

Jobs Advertised: Position titles in this category included Radiology Supervisor, Radiology Manager, Radiographer, Radiology Technician, Radiology Assistant, Radiology Administrator, and Radiology Technician Aide.

Job Description: Employees in these specialized fields perform a variety of diagnostic and therapeutic procedures in a wide array of radiology and biotechnical modalities.

Education/Training/Work Experience: All positions, with the exception of the Radiology Technician Aide, required an Associate degree, certification, or eligibility for certification within a specialty. Most of the advertisements identified areas of specialty within radiology to include computer tomography, scanning, magnetic resonance imaging

[2] A list of acronyms and their meanings, included in this report, is presented in Appendix B.

(MRI) diagnostics, sonography, mammography, ultrasound, bone density, nuclear medicine, electroencephalograph (EEG), and electrocardiograph (EKG). Generally, a minimum of 1 to 2 years of experience was required. Managerial and supervisory positions required supervisory and training experience.

A partial certification listing includes Accreditation (CAHEA), American Registry of Radiologic Technologists (ARRT), Nuclear Medicine Technology Certification Board (NMTCB), and American Registry of Diagnostic Medical Sonographers (ARDMS).

Employment Outlook: Although employment opportunities will increase, the pace may be lessened by productivity gains caused by increasingly sophisticated equipment and cross-trained employees.

Earnings: Median annual earnings in 1998 were $32,070 for this job category.

C. Nursing

Jobs Advertised: Position titles listed under this category included Registered Nurse (RN), Licensed Practical Nurse (LPN), Certified Nursing Aide (CNA), Certified Medical Aide (CMA), and Nurse Manager or Administrator.

Job Description: RN's have a wide variety of duties in many different healthcare settings, ranging from direct patient care to administration and supervision. LPN, CNA, and CMA positions work under the supervision and direction of physicians and nurses, providing basic patient care.

Education/Training/Experience: All advertisements for nurse positions required licensure and state certification plus 1-3 years of experience. Education for nursing could be at three levels: (1) hospital diploma (2) Associate's degree from a community college or (3) Bachelor's in Science degree from a four-year college or university. A Master's degree was required for the Nurse Manager/Administrator positions plus 3-5 years supervisory experience. Completion of an accredited program was required for LPN, CNA, and CMA positions, with 1 to 2 years of work experience.

Employment Outlook: Employment prospects are considered excellent for nurses, particularly for individuals with knowledge and experience in specialized clinical areas. Flextime positions are becoming increasingly available. Employment of LPN positions is expected to rapidly grow in response to long-term care needs of an aging population and to the general growth of the healthcare sector.

Earnings: The range of annual earnings in 1997 for nurses was $36,300 to $43,000. The range of annual earnings for LPN positions in the same year was $24,500 to $30,200.

D. Rehabilitation

Jobs Advertised: The advertised positions within this category included Physical Therapist, Speech Therapist, Respiratory Therapist, Occupational Therapist, and Recreational Therapist.

Job Descriptions: Occupational Therapists assist patients in improving their ability to perform tasks in their daily living and working environments. Recreational Therapists provide treatment services and recreational activities to individuals with disabilities or illnesses. Speech Therapists assess and treat speech, language, cognitive, communication, voice, swallowing, and fluency disorders. Respiratory Therapists evaluate, treat, and care for patients with breathing disorders.

Education/Training/Experience: All positions in rehabilitation required a Bachelor's degree and successful completion of a certification examination. Certifications in specialized areas included: Certified Respiratory Therapist (CRT), Recreational Therapist (Certified Therapeutic Recreation Specialist (CTRS)), Certification of Clinical Competency in Speech Language Pathology (CCC-SLP), Speech Pathologist, and Clinical Competency in Speech Language Audiology (CCC-A). Most advertisements required work experience of 1 to 3 years.

Employment Outlook: Employment growth is projected to grow through the 1998-2008 period. The heaviest expected employment growth is expected to occur during the second half of the projection period.

Earnings: Ranges in annual earnings during 1997:

Occupational Therapists	$38,200-$57,000
Physical Therapists	$50,100-$65,600
Recreational Therapists	$27,760-$35,000
Speech Therapists	$34,580-$43,080
Respiratory Therapists	$30,040-$39,830

E. Billing Clerks

Jobs Advertised: Positions in this category were listed as Billing Clerks and predominantly work in hospitals, clinics, and medical offices.

Job Description: Duties consist of billing for rendered medical services and follow-up collection activity.

Education/Training/Experience: No formal training was required. Experience of 1 to 2 years and knowledge of Medicare/Medicaid and private insurance billing procedures was indicated as required.

F. Medical Receptionist

Jobs Advertised: Advertised positions in this category were listed as Medical Receptionist.

Job Description: Individuals who work in this capacity are employed in a variety of healthcare settings. Duties generally include front desk activity, phone coverage, appointment setting and follow-up, data entry, correspondence, supplies, travel arrangements, and record maintenance.

Education/Training/Experience: No formal training was required. One to two years of experience was generally required and some advertisements indicated that training

would be provided. Several of the ads required experience in specific clinical areas. Personal attributes most frequently mentioned included being well organized, extroverted and reliable. Computer literacy was also indicated as a desirable skill for candidates to possess.

G. Mental Health

Jobs Advertised: This category included a broad array of job titles, which were usually indicative of the area of clinical work. Job titles included Mental Health Therapist, Psychiatric Technician, Mental Health Counselor, Rehabilitation Director, Crisis Response Technician, Mental Health Clinician, Rehabilitation Specialist, Counselor, Chemical Dependency Therapist, Residential Counselor, Employment Counselor, Clinical Director, Program Director, Psychiatric Rehabilitation Counselor, Outreach Program Director, Employment Specialist Coordinator, Child and Adolescent Therapist, Direct Care Aide, Crisis Intervention Manager, and Case Management Director.

Job Description: Work in this area involves caring for mentally and emotionally disturbed individuals.

Education/Training/Work Experience: An Associate's degree and 1 to 2 years of experience were required at the technician and aide levels. Other positions required a Bachelor's degree, 2 to 4 years of experience, and licensure. A Master's degree and 3 to 5 years of experience, which included supervisory experience, were required for the position of Director and Manager. A Bachelor's degree in human resources was required for work in the employment clinical area.

H. Pharmacist

Jobs Advertised: Advertised positions in this job category included Pharmacist and Pharmacist Technician.

Job Description: Pharmacists dispense drugs that physicians, dentists, and other health professional practitioners prescribe for patients. Pharmacy Technicians work under the supervision and direction of registered pharmacists.

Education/Training/Work Experience: All pharmacist positions required a degree in pharmacy, registration in the state in which they are employed, and generally at least one year of experience. None of the pharmacist technician positions, which were listed, required formal training. However, up to two years of experience was required in a pharmacy retail setting.

Employment Outlook: Employment for both the pharmacist and pharmacist technician positions is considered good through the year 2006, due to projected increases in the pharmaceutical needs of an increasingly older population.

Earnings: Annual salary range in 1998 for pharmacist positions was $43,000-$61,700. Annual salary range in 1998 for pharmacy technician positions was $19,000-$28,000.

I. Social Worker

Jobs Advertised: Advertised positions listed in this category included Social Worker, Family Activities Coordinator, Child Services Coordinator, Case Manager, and Drug Dependency Manager.

Job Description: Social workers assist individuals with emotional and physical illness, behavior management, substance abuse, child/spouse abuse, and other issues.

Education/Training/Work Experience: All positions required a Bachelor's or Master's degree, licensure in the state where employed, and 1 to 3 years of experience. Coordinator and manager positions required candidates to have supervisory experience.

Employment Outlook: Employment of social workers is expected to increase rapidly through the year 2006. In addition to increased numbers of older people who need social services, growing concern about crime, juvenile delinquency, mental illness, AIDS patients, and families in crisis is expected to spur demand for social workers.

Earnings: Annual income range in 1997 for social workers was $32,300 to $38,700.

J. Clinical Laboratory Services

Jobs Advertised: Positions, advertised under the Clinical Laboratory Services category, included Lab Technician, Laboratory Aide, Histotechnician, Histology Supervisor, Cytogenetic Technician, Phlebotomist, and Quality Laboratory Specialist.

Job Description: Medical laboratory technicians collect, receive, separate, and store specimens from medical tests. Clinical laboratory technicians perform chemical, biological, hematological, microscopic, immunologic and bacteriological tests. Medical technologists perform chemical, bacteriologic and microscopic tests on various cell and tissue specimens. Phlebotomists collect blood specimens from patients at the request of physicians.

Education/Training/Experience: The lab technician positions required no formal training beyond 1 to 2 years of medical lab experience. The histology supervisors and quality laboratory specialist positions required an Associate's degree and two or more years of experience. All other job titles in this category had a minimum requirement of certification with an appropriate association, good communication, and good computer skills.

Employment Outlook: Employment growth through the year 2008 is considered very good. Individuals with an Associate's degree or higher will be more marketable.

Earnings: The range of annual earnings in 1997 for medical laboratory positions was $24,000-$36,000 and for clinical laboratory technologist positions it was $23,000-$43,000. In addition, medical technologist positions had an annual earnings range in 1997 of $25,000-$41,000 and phlebotomist positions ranged from $19,000-$28,000 in 1997.

K. Other

There were several other advertised positions in the healthcare sector. Included in the "Other" category were positions relating to vision care, nutrition, Director of Medical Information Services, Medical Office Manager, Psychologist, Physician, Psychiatrist, Psychotherapist, Medical Research Manager, Orthodontist and Practice Administrator. Although these positions were advertised less frequently than others, this should not be interpreted as a reflection of marginal interest for these types of jobs by the medical community.

Education/Training/Experience: The range of education/training/experience was extremely broad due to the wide diversity of job titles. All professional positions required at minimum a Master's, Ph.D. or medical degree, board certification in a medical specialty, licensure, and multi-year experience. The Director of Medical Information Service required a Master's degree in computer science or business management. Medical office manager positions required a Bachelor's degree in business administration, medical office background, computer literacy, and multi-year experience.

Section 2: Projected Employment Increases in Healthcare, 1996-2006

Occupations in the healthcare field are expected to increase at twice the rate as the U.S. economy as a whole. Healthcare services will account for almost one-fifth of all job growth from 1996-2006. By the year 2006, health services employment is projected to increase to 12,600,000 positions. The increased demand for healthcare services, fed in part by the growing proportion of elderly citizen, is expected to continue for a full 50 years.[3]

Table 2: Projected Employment Increases in Healthcare, 1996-2006

Occupation	Increase	% Change
Dental Assistants	77,000	38
Dental Hygienists	64,000	48
Emergency Medical Technicians	67,000	45
Home Health Aides	378,000	76
Human Services Workers	98,000	55
Medical Assistants	166,000	74
Medical Records Technicians	44,000	51
Nursing Aides, Orderlies, & Attendants	333,000	25
Occupational Therapists	38,000	66
Occupational Therapy Assistants & Aides	11,000	69
Personal and Home Care Aides	171,000	85
Physical Therapists	81,000	71
Physical Therapy Assistants & Aides	66,000	79
Physician Assistants	30,000	47
Registered Nurses	411,000	21
Respiratory Therapists	37,000	46
Speech Language Pathologists	44,000	51

[3] Source: U.S. Bureau of Labor Statistics, Occupational Employment Projections to 2006, *Monthly Labor Review*, November, 1997.

Section 3: Employer Needs - Expected Skills, Education, and Expertise

Sample 1 - *The Washington Post 2/13/00*

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Positions: Dental					
Dental Assistant			• Experience is helpful		
Dental Assistant	• Competent • Dedicated • Team player	• CDA • XR Certification	• Experience is helpful		
Orthodontics Assistant			• Experience is helpful		
Dental Assistant	• Mature • Dependable		• Have some Experience		
Assistant Manager	• General office duties				
Dental Assistant	• Communication skills • Technical abilities • Reliable • Customer service				
Chairside Assistant	• Self-motivated • Team player • Solid work ethic		• Restorative experience		
Dental Hygienist	• Enthusiastic • Soft tissue management				
Dental Hygienist	• Aesthetic/Cosmetic Care				

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Dental Hygienist	• Highly motivated • Team player		• Experience is helpful		
Dental Manager/Assistant			• X-ray experience		
Dental Assistant	• Enthusiasm • Self-motivated		• Experience is helpful		
Dental Receptionist/Assistant	• Dental procedures and terminology			• Dental computer software	
Dental Surgical Assistant	• Knowledge of implants	• X-ray certificate	• Experience is helpful		
Dentist	• Great people person skills				
Provider Services Analysis	• Strong communication	• BA/BS preferred	• 2 years in care/ dental care management		
Positions: Medical Assistant/Specialist					
Insurance/Accounts Coordinator			• Medical office and insurance experience		
Medical Assistant	• Venipuncture skills • Responsible • Punctual		• Prior medical office experience with front and back duties.		
Medical Office Manager	• HR • Coding • Financial		• Background in billing		
Medical Receptionist	• Phone skills • Office skills				
Medical Assistant	• Self-motivation		• Prior medical experience		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Medical Billing	• Hardworking • Motivated		• Billing		
Medical Assistant			• CBSI and medical experience are helpful		
Medical Insurance Assistant	• Customer service		• 1 – 2 years in insurance billing, A/R posting, HMO referrals and collection	• Medical manager computer system	
Medical Office Assistant	• Pleasant, clear articulation • Knowledge of insurance CPT-4/ ICO-9 medical billing codes		• 2 years in front office	• CBSI Version 8	
Billing and Front Desk			• Experience is helpful	• CBSI preferred	
Billing Manager			• Strong billing experience		
Business Office Manager	• Knowledge of Medicaid and Medicare		• 2 – 3 years experience		
Business Manager	• Managing dental or medical accounts				
Business Office Coordinator	• Dental experience • Detail oriented		• Experience in client-oriented business	• Computer skills	

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Front Office Coordinator	• Managed care • CPR/ICO 9 codes • Patient cashiering	• A.A. or 2 years college experience			
Billing and Collection Specialist	• Versyss • MRI radiology		• 3 years		
Sr Receptionist	•		• 5 – 10 years		
Staffing Coordinator	• Highly motivated • Self starter • People skills				
Receptionist			• Previous medical office experience		
Receptionist			• Experience is helpful		
Receptionist	• Typing		• Previous experience		
Medical Receptionist	• ICO-9/CPT coding				
Receptionist			• Experience is helpful		
Medical Research			• Experience is helpful		
Office Manager			• Computer billing		
Positions: Mental Health/Social Work					
Vocational Counselor	• Job coach • Autistic adults	• BA/BS in human services			
Mental Health	• Good driving record • Ability to juggle multiple tasks • Case management • Job coaching • Written, verbal, computer skills	• BA			

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Child Therapist	• Children in therapy for HIV/AIDS	• LCSW • LGSW			
Addictions Counselor		• BA/BS in related field or education plus experience • Eligible for certification as addictions counselor			
Mental Health Counselor	• Case management • Crisis intervention	• Masters in psychology, social work or related field.	• Experience with seriously mentally ill and dually diagnosed • Clinical supervisor experience preferred		
Senior Counselor		• BA in psychology, sociology or related field	• 2 years working with people with disabilities		
Substance Abuse Psychotherapist	• Parenting training • Adult substance abuse	• LGSW • LICSW • LPC			
Social Worker	• Substance abuse • Mental illness	• LCSW-C • ASL preferred	• 4 years clinical • 2 years supervisory		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Director of Social Work	• Strong communication and leadership skills • Legal and regulatory knowledge • Recruit, train, assign staff	• LCSW, LGSW or MSW • MD license	• 2 years in direct management • 5 years in health care delivery system		
Social Worker	• Excellent verbal, written, communication skills • Knowledge of D.C. and federal licensure and certification requirements	• D.C. license	• 2 years in long-term care setting		
Child Psychiatrist	• Youth with emotional/ behavioral issues	• MD license • Board certified Bureau of Narcotics Dangerous Drugs registration			
Social Worker		• Licensed	• IOU and HIV/AIDS prevention • Outreach education • Substance abuse issues		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Positions: Nursing					
CNA Coordinator	• Program/staff oversight • Medical administration	• CNA • Medication certificate	• 2 – 3 years in Alzheimer's		
Clinical Research Coordinator	• Recruit, screen, manage clinical study	• BSN • D.C. license	• 1 year study coordination		
LPN Charge Nurse		• LPN	• Hospital/nursing home experience		
Nurse Practitioner		• D.C. license			
Clinical Director	• Energetic • Flexible • Strong documentation skills • Knowledge of Oasis	• BS • D.C. license	• Experience in home care	• Familiar with computers	
CNA		• CPR • First Aid • CNA certification	• Long-term care • Leading activities		
RN/LPN	• Energetic		• Experience is helpful		
RN Charge Nurse		• RN	• Hospital or nursing home		
RN	• Strong pediatric clinical skills				
RN		• Certification in audiometry, spirometry, and ohn preferred			

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Admissions Director	• Screening, interviewing, & monitoring • Manage admissions		• Nursing background preferred		
Nursing		• RN or LPN	• Cardiology or arrhythmia		
PACU			• PACU or critical care experience		
OB Technician			• 1-2 years of OB scrub experience		
Diabetes Educator	• Strong written & verbal skills • Strong presentation & problem-solving • Team player • Independent worker	• RN • VA license • Certified diabetes educator	• 3 years in diabetes education	• Strong computer skills	
Chief Nursing Officer	• Communication skills	• D.C. license • Bachelor's in nursing • Master's in nursing, admin., business, or health care	• 5 years in management • 2 years at vice president or chief nursing level		
Director	• Self-directed • Motivated	• RN or LPN			
RN			• 2 years		
Registered Nurse	• Knowledge and familiarity of clinical practices and procedures	• DC License • RN	• 2 years in OB/GYN office, hospital, or ambulatory care		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Staff Development Coordinator	• Plan, develop, implement, & evaluate education/training • Conduct in-service programs • Maintain records • Provide guidance to personnel	• Bachelor's in nursing • Master's preferred • D.C. license	• Experience in long term care		
Infection Control Manager		• RN • CPR • D.C. license • Bachelor's in nursing or related field preferred	• 3 years in infection control		
RN		• Any state RN license	• 1 year		• Willing to sponsor green card & H-1c (work visa)
Positions: Other					
Nutrition Assistant	• Knowledge of nutrition preferred • Quality food preparation • Customer service	• HS degree • Some college preferred			
Opthamolgic Tech			• Experience is helpful		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Optician	• Customer oriented				
Optometrist	•				
Patient Coordinator	• Highly organized				
Pharmacy Technician	• Knowledgeable • Empathetic				
Physician		• BE/BC in peds or family practice			
Plato Support Specialist	• Develop and conduct training courses • Coordinate pre-sales, sales, & post-sales • Deliver technical presentations • Provide telephone & on-site support		• 2 years radiotherapy, dosimetrist, or physicist	• Radiotherapy treatment software	
Psychology/Special Education	• Excellent communication & academic skills				• Have Vehicle
Film Librarian	• Reliable • Dependable • Pleasant telephone manners • Effective communication skills • Computer knowledge		• Experience with terminal digit filing and x-ray jackets		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Recreation/Volunteer Assistant	• Creating recreation calendars & activities • Customer service attitude • Positive attitude		• Recreation/ activity department	• Good computer skills	
Occupational Therapist		• VA license			
Respiratory Therapist	• Interpersonal skills • Caring personality • Provide high level of patient care	• CRTT • RRT			
Project Manager	• Knowledge of current industry standards • Coding systems for health care encounters	• Bachelor's in business, management, science, industrial engineering or related field • Master's preferred	• 5 years in broad based management environment		
Business Analyst	• People & writing skills • Programming • Healthcare, statistics, & data analysis	• BA/BS	• 2 years as functional analyst	• Excel • SQL preferred • Databases	
Home Health Care Aides		• Certification	• Experience with developmental, disabled clients		

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Blood Bank Coordinator		• MT (ASCP) • SBB preferred	• 5 years supervisory experience at blood bank		
Medical Research Coordinator			• Clinical trial experience		
Medical Officer	• Analyzing medical findings, reports, etc. • Working with others	• MD • Board certified in occupational or internal medicine • License to practice throughout U.S.	• Internal medicine, family practice, emergency, or public health		• U.S. citizenship
Medical Supervisor		• MT (ASCP)	• 6 years in hematology		
Driver/Activities Assistant	• Working with people • Good driving skills • Activities	• CDL license • CPR • College degree			
Pharmacy Technician		• Certified	• Hospital experience		
Childcare			• Experience with kids		
Diet Technician	• Verbal skills • Communication skills • Knowledge of federal & D.C. licensing	• A.A. in nutrition/dietetics	• 2 years in long-term setting		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Director of Medical Management	• Managed care environment	• Master's in nursing • Licensed in VA/MD/D.C.	• 6 years clinical nursing • 3 years of supervisory experience		
EMT					
Marketing Administrator	• Establish, direct, & coordinate marketing	• Bachelor's	• 2-4 years marketing health related products	• Computer skills	
Reimbursement Specialist	• Strong communication skills • Customer service • Analytical skills	• Degree in healthcare or experience	• 2-3 years in healthcare field		
Staffing Specialist	• Superior communication skills • Organizational skills • Customer service • Administrative skills		• Health care industry knowledge preferred		
Positions: Radiology					
X-ray Technician		• AART			
MRI		• ARRT certification • MRI certification or eligible for MRI certification			

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Diagnostic Sonographer		• ARDMS certification • ARRT • Completion of approved school	• 1 year		
Radiology		• Graduated from AMA approved program • MD state board certification			
Radiologic Technician			• 2 years		
Radiologic Technician	• Dependable • Reliable • Work independently	• AART • MD license	• Mammography experience preferred		
Nuclear Medicine Technologists		• MD license • CNMT/AART • BS	• 2 years clinical experience		
Vascular Technologist			• 2 years vascular ultrasound & arterial flow procedures • Experience with vascular accreditation process preferred		

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Sample 2 - *The Washington Post 4/16/00*

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Positions: Dental					
Dental Assistant			• 1 year		
Dental Assistant	• Organizational skills preferred	• X-ray certification	• Dentrix experience preferred		
Dental Assistant			• 2 years		
Dental Assistant			• Experience is helpful		
Dental Hygienist					
Dental Hygienist	• Stable • Hardworking • Dedicated • Team player				
Positions: Medical Assistant/Specialist					
Accounting Clerk			• 2 years	• Ceridian preferred • PeopleSoft preferred	
Administrative Assistant	• Detail oriented • Accurate • Self-motivated • Flexible • Good interpersonal & communication skills		• Experience with minimum data sets & electronic transmission	• Windows	

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Medical Secretary			• Rx processing • Scheduling • Staff communication	• Windows 95 • WordPerfect 6.1 • Spreadsheets	
Billing Clerk	• Strong interpersonal skills		• Insurance billing • Medical assistance billing • Account analysis		
Claims Adjuster		• HS diploma	• 1 year claims processing • Experience in ICD-9-CM CPT coding	• WP • PC	
Medical Assistant	• Spanish speaking preferred		• 1 year		
Medical Bookkeeper AA			• A/P experience	• Computer skills	
Medical Receptionist			• 1 year		• Good references needed
Billing Manager	• Aggressive				
Positions: Mental Health/Social Work					
LCSW			• 2 years in mental health case management		

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Mental Health Associates		• BS/BA in psychology	• Experience working with persons with psychiatric disorders preferred		
LCSW		• VA license			
Social Worker		• BSW or MSW • MD license	• Experience in acute care hospital		
Positions: Nursing					
Nursing			• OB experience preferred		
Professional Nurse		• Registered nurse clinician	• Experience in mental health preferred		
RN Nurse Manager	• Strong supervisory skills • Strong communication • Handle multiple tasks in progressive environment • Customer service oriented		• 3-5 years nursing home experience • Hands-on experience with MDS, MMDS, care planning, and staff supervision		
Director of Nursing			• 3-5 years management with clinical experience in gerontology		

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Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Nurse			• Home health or i.v. experience preferred		
LPN Nurse			• Experience in doctor's office		
RN/LPN			• IV experience		
RN/LPN			• Experience is helpful		
CNA			• Experience is helpful		
LPN			• Experience is helpful		
LPN/RN		• VA or D.C. license	• Home nursing experience		
Positions: Other					
Activities Assistant			• Elderly population • Experience in planning & implementing group activities		• Weekend hours included
Controller		• CPA	• 5 years in hospital setting		
Information Specialist	• Empathic • Telephone manners • Organized • Research skills • Spanish fluency preferred	• BS in science or health education	• Prior customer service experience preferred • 2 years full-time work	• Strong PC skills	

Position	Skills	Education/ Certification	Experience (Number of Years)	Hardware/ Software	Notes
Healthcare Financial Analyst		• Accounting or finance degree		• Excel • Access	
Positions: Radiology					
Ultrasonographer		• Graduate of accredited diagnostic sonography program	• 1 year		
Radiology Technologist		• AART	• 1 year		
MRI Technologist	• Dependable • Reliable • Ability to work independently	• MRI certification • AART • MD license	• 2 years		
Radiologic Technologists		• AART • MD license • Graduation from AMA program			
Radiation Therapist		• AART • MD license • CPR certification	• Experience is helpful		

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Summary

The healthcare industry is one of the fastest-growing areas of the economy. It is projected that healthcare services will account for almost one-fifth of all employment growth through the year 2006. There are a variety of reasons for this, including the growth of the elderly population and the use of advanced medical technology. Planning appropriate curricula for the healthcare profession, in order to support a dynamic industry, provides both challenges and opportunities for NVCC.

Healthcare job advertisements appearing in the February 13, 2000 and April 16, 2000 editions of *the Washington Post* were collected, analyzed and used in the development of two tables. These tables listed the positions, skills, education and experience requirements that candidates should possess in order to qualify for positions advertised in the local labor market.

Job advertisements for healthcare positions, listed in the February 2, 2001 edition of the *Washington Post,* were also collected and analyzed. Profiles were developed providing a brief description of job responsibilities, education, training, experience requirements, employment outlook, earnings, and any prerequisite necessary for job candidates to possess. Skill sets required for the advertised positions varied greatly from one job to another.

Occupations that generally required high school graduation included Medical Secretary, Pharmacy Helper, Medical Record Clerk, Dental Assistant, Occupational and Physical Therapy Aide, Medical Receptionist, Billing Clerk, Home Health Aide, Nursing Aide, Nutrition Assistant, Medical Insurance Assistant, Activities Aide and related occupations. These jobs generally required minimal experience of one year or less in a healthcare setting. Certification was also required for some positions. Required computer skills included Windows 98, WordPerfect 6.1, and Access for Medical Secretary and Medical Receptionist advertisements as well as knowledge of insurance billing codes/procedures for some other positions. For those advertised jobs with heavy exposure to the public, friendliness and good communication skills were required.

There were many advertised jobs, which generally required post-secondary education such as an Associate degree, a Bachelor's degree, and/or extensive employee training. These advertisements included such job positions as Radiologic Technologist, Radiologic Technician, Nurse, Respiratory Therapist, Surgical Technician, Medical Assistant, Corrective Therapy Assistant, Physical Therapy Assistant, Medical Records Technician, Licensed Practical Nurse, Dental Hygienist, Speech Therapist, Phlebotomists, Optician, Certified Nurse Aide, Pharmacy Technician, Emergency Medical Technician, and related occupations. These positions typically require two or more years of experience, certification, and licensure in the area where employed. Competency in field, reliability and self-motivation were the most frequently mentioned personal attributes sought in candidates.

Several advertisements required a minimum of a Bachelor's degree, with many requiring an advanced degree. These advertisements included such positions as Physical Therapist, Audiologist, Psychologist, Chiropractor, Speech Language Pathologist, Medical Doctor, Psychiatrist, Nutritionist, Pharmacist, Dental Surgeon, Provider of Services Coordinator, Counselor, Nurse Manager, Psychotherapist, Clinical Director,

Diabetes Educator, Chief Nursing Officer, Staff Development Officer, Optometrist, Marketing Administrator, Director of Medical Management, and others. Many of these senior level positions are recruited from internal announcements and professional journals rather than newspaper advertisements. These positions have limited relevance at the community college level. For those positions citing experience requirements, 2 to 6 years of experience was generally required in highly specialized clinical areas within a healthcare setting and management experience background was required for supervisory positions.

The number and diversity of jobs appearing in all three editions of *the Washington Post* are indicative of the extensive availability and wide diversity of healthcare positions currently offered in this area. NVCC appears to be well positioned to respond to student needs and workforce requirements as is evidenced by the broad array of available healthcare programs currently being offered.

APPENDIX A

HEALTHCARE DEGREES OFFERED BY NORTHERN VIRGINIA COMMUNITY COLLEGE

Associate in Applied Sciences:

- Dental Hygiene
- Emergency Medical Services Technology
- EMS Management
- Gerontology
- Health Information Technology
- Human Services Associate
- Medical Laboratory Technology
- Nursing
- Physical Therapist Assistant
- Radiography
- Respiratory Therapy

Certificate:

- Clinical Medical Assistant
- Substance Abuse Rehabilitation Counselor
- Surgical Technology

Career Studies Certificate:

- Basic EMT
- Breast Diagnostic Imaging
- Cardiac Care Technician
- Care of the Aging
- Clinical Data Coding
- Computed Tomography
- Limited Radiography
- Magnetic Resonance Imaging
- Medical Point-of-Care Testing
- Medical Practice Management
- Medical Transcription
- Optician
- Optometric Assistant
- Optometric Technician
- Pharmacy Technician
- Phlebotomy
- Rescue Squad Management

APPENDIX B

ACRONYM IDENTIFICATION

CAAHEP	Commission on Accreditation of Allied Health Education Programs
ABHES	Accrediting Bureau of Health Education Schools
AMT	American Medical Technologist
AAMA	American Association of Medical Assistant
HMO	Health Maintenance Organization
MRI	Magnetic Resonance Imaging
EKG	Electrocardiograph
EEG	Electroencephalograph
AART	American Registry of Radiologic Technologists
NMTCB	Nuclear Medicine Technology Certification Board
ARDM	American Registry of Diagnostic Medical Sonographers
RN	Registered Nurse
LPN	Licensed Practical Nurse
CNA	Certified Nurse Aide
RRT	Registered Respiratory Therapist
CRT	Certified Respiratory Therapist
CTRS	Certified Therapeutic Recreation Specialist
CCC-SLP	Certificate of Clinical Competence in Speech-Language Pathology
CCC-A	Certificate of Clinical Competence in Speech-Audiology
MSW	Master's Degree in Social Work
ACSW	Academy of Certified Social Workers
NASW	National Association of Certified Social Workers
DCSW	Diplomat in Clinical Social Work

APPENDIX C

HEALTHCARE EDUCATIONAL REQUIREMENTS*

HS Diploma/GED and up to 2 years additional education and/or on-the-job training	Two to four years of college Associate/Bachelor's Degree	Master's Degree	Doctoral or Professional Degree
Nursing Assistant/Aide	Registered Nurse	Gerontologist	Chiropractor
Dental Assistant	Dental Laboratory Technician	Physician Assistant	Physician
Electrocardiograph Technician	Counselor	Nurse Practitioner	Podiatrist
Dental Hygienist	Genetic Counselor	Nurse Midwife	Dentist
Psychiatric Aide	Social Worker	Nurse Anesthetist	Psychologist
Psychiatric Technician	Pharmacy Technician	Clinical Nurse Specialist	Pharmacist
Histologic Technician	Occupational Therapist	Audiologist	Research Scientist
Monitor Surveillance Technician	Physical Therapist	Creative Arts Therapist	Optometrist
Dietectic Technician	Respiratory Care Therapist	Orthotist	
Nuclear Medicine Technologist	Therapeutic Recreation Specialist	Prosthetist	
Radiation Therapy Technologist	Cytotechnologist	Speech/Language Pathologist	
Sonographer	Histotechnologist	Health Services Administrator	
Biomedical Equipment Technician	Medical Laboratory Technician		
Optical Laboratory Technician	Medical Technologist		
Optician	Electroneurodiagnostic Technician		
Optometric Assistant	Registered Dietician		
Optometric Technician	Nursing Home Administrator		
Emergency Medical Technician	Biomedical Engineer		
Perfusionist	Electroneurodiagnostic Technician		
	Environmental Health Specialist		
	Industrial Hygienist		
	Opthalmic Technologist		
	Athletic Trainer		
	Health Educator		
	Health Sciences Librarian		

Source: *Virginia Health Careers 1996-1998*

*Educational requirements appearing in job advertisements may differ from the information contained in this table due to differences in employer requirements.

NORTHERN VIRGINIA COMMUNITY COLLEGE

COLLEGE MISSION AND GOALS

The mission of Northern Virginia Community College is to respond to the educational needs of its dynamic and diverse constituencies through an array of comprehensive programs and services that facilitate learning and workforce development in an environment of open access and through lifelong educational opportunities.

To achieve this mission, the following strategic goals for 1999-2001 are established:

I. Sustain and Strengthen Academic Quality and Teaching Excellence.
II. Enhance the Quality of Services to Students.
III. Expand the Integration of Technology in Instruction and Administration.
IV. Increase Access to College Programs and Services.
V. Improve the Quality of Institutional Communication.
VI. Strengthen Programs That Help Build a World Class Workforce.
VII. Promote Responsiveness to Diversity of Students and Employees.
VIII. Strengthen and Develop Additional Linkages with Community Groups.
IX. Integrate College Planning and Facility Requirements.
X. Enhance the Overall Wellness of Our Working and Living Environments.